Claim Amendments

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A ~~network~~ processor, the ~~network~~ processor comprising:

at least one interface to at least one device carrying network traffic;

a set of more than two programmable processing engines; and

circuitry to control power consumed by individual ones of the set of processing engines based on a measure of network traffic handled by the ~~network~~ processor, wherein the circuitry controls power by:

determining which of multiple respective ranges the measure of network traffic falls within, the number of ranges being greater than two, and

determining at least one of the programmable processing engines to power-up based, at least in part, on the determined range.

2. (currently amended) The ~~network~~ processor of claim 1, wherein the circuitry comprises multiple power control lines, an individual one of the power control lines to control power consumption of at least one of the programmable processing engines.

3. (currently amended) The ~~network process~~ processor of claim 2, wherein the individual power control line controls power consumption of only one of the programmable processing engines.

4. (currently amended) The ~~network~~ processor of claim 2, wherein the circuitry comprises at least one logic gate coupled to the clock input of a one of the programmable processing engines, the at least one logic gate operating on a one of the power control lines and a clock signal.

5. (currently amended) The ~~network~~ processor of claim 1, wherein the circuitry comprises circuitry to access network traffic meter data.

6. (currently amended) The ~~network~~ processor of claim 4, wherein the circuitry comprises circuitry to meter network traffic in individual traffic flows.

7. (currently amended) The ~~network~~ processor of claim 1,

further comprising at least one shared memory controller communicatively coupled to the programmable processing engines; and

wherein the programmable processing engines comprise multi-threaded processing engines.

8. (currently amended) The ~~network~~ processor of claim [[1]] 6,

wherein the circuitry comprises computer program instructions, disposed on a computer readable medium, the instructions for causing at least one of the programmable processing engines to determine ~~engine(s)~~ at least one of the programmable engines to power down ~~based on the metering~~.

9. (currently amended) A method, comprising:

accessing a measure of network traffic ~~metering data~~; and

controlling power consumption of individual ones of a set of ~~network processor~~ processing engines based on the ~~metering data~~ measure of network traffic by:

determining which of multiple respective ranges the measure of network traffic falls within, the number of ranges being greater than two, and

determining at least one of the programmable processing engines to power-up based, at least in part, on the determined range.

10. (original) The method of claim 9, wherein controlling power consumption comprises sending signals over power control lines, an individual one of the power control lines being associated with a particular processing engine.

11. (original) The method of claim 10, wherein controlling power consumption comprises AND-ing the signal sent over the individual power control line with a clock signal.

12. (original) The method of claim 9, wherein the processing engines comprise at least one engine programmed to perform packet classification.

13. (original) The method of claim 9,

wherein the processing engines comprise multi-threaded processing engines.

14. (currently amended) The method of claim 9,

further comprising metering the network traffic; and

wherein controlling power consumption comprises determining engines to power down ~~based on the metering~~.

15. (currently amended) A computer program product, disposed on a computer readable medium, the computer program including instructions for causing a processor to:

access a measure of network traffic ~~metering data~~; and

control power consumption of individual ones of a set of ~~network processor~~ programmable processing engines based on the measure of network traffic ~~metering data~~;

wherein the computer program instructions comprise instructions for execution by a one of the set of programmable processing engines.

16. (currently amended) The computer program of claim 15, wherein the instructions to control power consumption comprise instructions to send signals over power control lines, an individual one of the power control lines being associated with a particular processing engine.

17. (currently amended) The computer program of claim 15, further comprising instructions to meter network traffic.

18. (cancelled)

19. (currently amended) The computer program of claim 15, wherein the instructions to control power consumption comprise instructions to cause the processor to determine engines to power down.

20. (currently amended) A network forwarding device, the device comprising:

at least one physical layer (PHY) device;

at least one media access control (MAC) device communicatively coupled to at least one of the at least one PHY devices;

at least one network processor communicatively coupled to the at least one MAC device, the network processor comprising:

a set of processing engines; and

circuitry to control power consumption of individual ones of the set of processing engines based on a measure of network traffic handled by the network processor, wherein the circuitry controls power by:

determining which of multiple respective ranges the measure of network traffic falls within, the number of ranges being greater than two, and

determining at least one of the programmable processing engines to power-up based, at least in part, on the determined range.

21. (currently amended) The forwarding device of claim 20, wherein the circuitry

comprises power control lines, an individual power control line being associated with at least one processing engine.

22. (currently amended) The forwarding device of claim 20, wherein the circuitry comprises at least one logic gate coupled to the clock input of a one of the processing engines, the logic gate operating on a one of the power control lines associated with the one of the processing engines and a clock signal.

23. (currently amended) The forwarding device of claim 20, wherein the circuitry comprises circuitry to meter network traffic.

24. (currently amended) The forwarding device of claim 20,

wherein the network processor further comprises a shared memory controller communicatively coupled to the processing engines; and

wherein the processing engines comprise multi-threaded processing engines.

25. (currently amended) The forwarding device of claim 20, further comprising computer program instructions, disposed on a computer readable medium, for causing at least one of the processing engines to:

meter network traffic;

determine which engines to power based on the metering; and

set data based on the determination.

26. (currently amended) The forwarding device of claim 25, wherein the data comprises an array of data elements, individual elements identifying a level of power consumption of a corresponding engine.

27. (currently amended) The forwarding device of claim 20,

wherein the PHY(s), MAC(s), and network processor(s) comprise a line card;

wherein the device comprises multiple line cards; and

further comprising a switch fabric interconnecting the multiple line cards.

28. (new) The processor of claim 1, wherein the determining the at least one of the programmable processing engines to power-up comprises determining only after the measure of network traffic falls in the determined range over multiple determinings of the range the measure of network traffic falls within.

29. (new) The method of claim 9, wherein the determining the at least one of the programmable processing engines to power-up comprises determining only after the measure of network traffic falls in the determined range over multiple determinings of the range the measure of network traffic falls within.

30. (new) The computer program of claim 15, wherein the programming instructions comprise instructions for causing the processor to:

determine which of multiple respective ranges a measure of the network traffic falls within, the number of ranges being greater than two, and determine at least one of the programmable processing engines to power-up based on the determined range.

31. (new) The computer program of claim 30, wherein the instructions to determine at least one of the programmable processing engines to power-up comprises instructions to determine only after the measure of network traffic falls in the determined range over multiple determinings of the range the measure of the network traffic falls within

32. (new) The forwarding device of claim 20, wherein the determining at least one of the programmable processing engines to power-up comprises determining the only after the measure of network traffic falls in the determined range over multiple determinings of the range the network traffic falls within.